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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10994-4 (1985): Cartridges for Shot Guns, Part 4: Cap Filled [PGD 28: Arms and Ammunition for Civilian Use]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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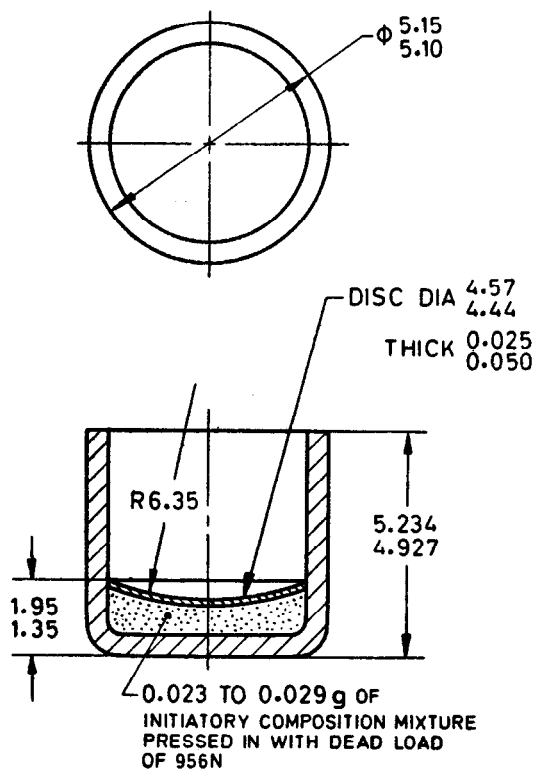
Indian Standard

SPECIFICATION FOR
CARTRIDGES FOR SHOT GUNS

PART 4 CAP FILLED

1. Scope — Covers the dimensional and material requirements of cap filled for shot gun cartridges.

2. Dimensions — Shall be as shown in Fig. 1.



All dimensions in millimetres.

FIG. 1 DIMENSIONS FOR CAP FILLED

3. Material

3.1 Cap Empty — The cap empty shall be made from copper alloy conforming to IS : 3167-1983 'Cap copper alloy strip (first revision)'.

3.2 Initiatory Composition — The initiatory composition shall be from one of the compositions given in Appendix A.

3.3 Disc — The disc shall be made from lead tin foil or from paper white fine conforming to requirements given in Appendix B. The disc shall be pressed in with initiatory composition or separately with a minimum pressure of 890 N dead load and varnished with shellac conforming to IS : 347-1975 'Varnish shellac for general purposes (first revision)'.

4. Other Requirements — The requirements not covered in this standard shall be as given in IS : 10994 (Part 1)-1984 'Specification for cartridges for shot guns : Part 1 General requirements'.

5. ISI Certification Marking — Details available with the Indian Standards Institution.

Adopted 21 June 1985

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APPENDIX A

(Clause 3.2)

REQUIREMENTS OF INITIATORY COMPOSITION

A-1. Ingredients — The respective compositions shall contain the ingredients in the proportions and within the tolerances indicated below:

Composition	Mercury Fulminate		Potassium Chlorate		Antimony Sulphide	
	Nominal Proportion percent	Tolerance percent	Nominal Proportion percent	Tolerance percent	Nominal Proportion percent	Tolerance percent
A1 Mixture	37.5	±2.0	37.5	±2.0	25.0	±1.3
B1 Mixture	11.0	±0.6	52.5	±2.6	36.5	±2.0
C1 Mixture	32.0	±1.8	45.0	±2.2	23.0	±1.3
D1 Mixture	25.0	±1.3	40.0	±2.0	35.0	±2.0

A-2. Tests — Samples taken from any portion of any mixture of the composition shall comply with the following requirements:

Requirements	Permissible Value	Test Method
Moisture	0.05 percent, <i>Max</i>	Expose 5 grams of the material in a shallow dish in a darkened glass desiccator over dry Silica gel for a period of not less than 12 hours. Take the percentage loss in weight as the moisture content
Matter insoluble in acid A1 and C1 Mixture B1 and D1 Mixture	0.08 percent, <i>Max</i> 0.11 percent, <i>Max</i>	—
Matter insoluble in gritty A1 and C1 Mixture B1 and D1 Mixture	0.06 percent, <i>Max</i> 0.09 percent, <i>Max</i>	—

APPENDIX B

(Clause 3.3)

REQUIREMENTS FOR CARTRIDGE PAPER WHITE FINE

B-1. Physical Requirements — The material shall be conditioned prior to test for 24 hours in an atmosphere of 65 ± 2 percent relative humidity at $27 \pm 2^\circ\text{C}$ and shall comply with the following physical requirements :

SI No.	Substance g/m ²	Thickness mm	Bursting Strength kPa
1.	42-46	0.051 ± 0.005	110.8
2.	84-92	0.089 ± 0.009	179.4

B-2. Chemical Requirements

SI No.	Characteristics	Requirement	Test Method
1.	Moisture content at 103 to 105° C for 2 hours	9 percent, <i>Max</i>	IS : 1060 (Part 1) - 1966 'Methods of sampling and tests for paper and allied products : Part 1 (revised)'.
2.	pH of water extract a) Maximum b) Minimum	7.5 5.5	IS : 1060 (Part 1) - 1966.
3.	Water soluble chlorides calculated as sodium chloride percent by mass	0.05	IS : 1060 (Part 2) - 1960 'Methods of sampling and tests for paper and allied products: Part 2'
4.	Water soluble sulphates calculated as anhydrous sodium sulphate percent by mass maximum	0.25	IS : 1060 (Part 2) - 1960
5.	Fatty acid calculated as oleic acid percent by mass maximum	0.25	IS : 1060 (Part 2) - 1960
6.	Ash on incineration at $800 \pm 25^{\circ}\text{C}$	7.5 percent, <i>Max</i>	IS : 1060 (Part 1) - 1966
7.	Lead (when lead free material is required) calculated as metallic lead percent maximum	0.03	IS : 1060 (Part 2) - 1960

Note — All percentages shall be calculated on the dry mass of the material after drying to constant mass.

EXPLANATORY NOTE

Cap filled initiates firing of the cartridge.

In preparation of this standard considerable assistance has been derived from the following:

IND/ME 348, Initiatory Composition, Ministry of Defence, New Delhi

JSS 1221, Paper White Fine Ammunition, Directorate of Standardization, Ministry of Defence, New Delhi

This Indian Standard (IS : 10994) is being issued in the following parts, Part 1 Covering general requirements for shot gun cartridges and subsequent parts covering the individual components.

Part 1 General requirements

Part 2 Blank cartridges

Part 3 Case empty

Part 4 Cap filled

Part 5 Anvil

Part 6 Propellant

Part 7 Discs

Part 8 Air cushion

Part 9 Lead shots

This standard has been prepared based on the data received from Ammunition Factory, Khadki Pune.